The Operational Environmen

TRADOC DCSINT

and

Threat

" Operational Environments"

An Operational Environment is the "composite of all conditions, circumstances and influences which affect the employment of military forces and bear on the decisions of the unit commander." (Joint Publication 1.02).

An Operational Environment (OE) dictates . . .

- **Key variables affecting Operations**
- **Conditions and characteristics of the future battlespace**
- **Conventional and unconventional threats . . . instability and unchecked conflict**
- **Threat Strategies linked to Strategic aims**
- **Broad range of Ways, Ends and Means to enable Strategies**
- **Operational and Tactical designs for the application of ways, ends and means**
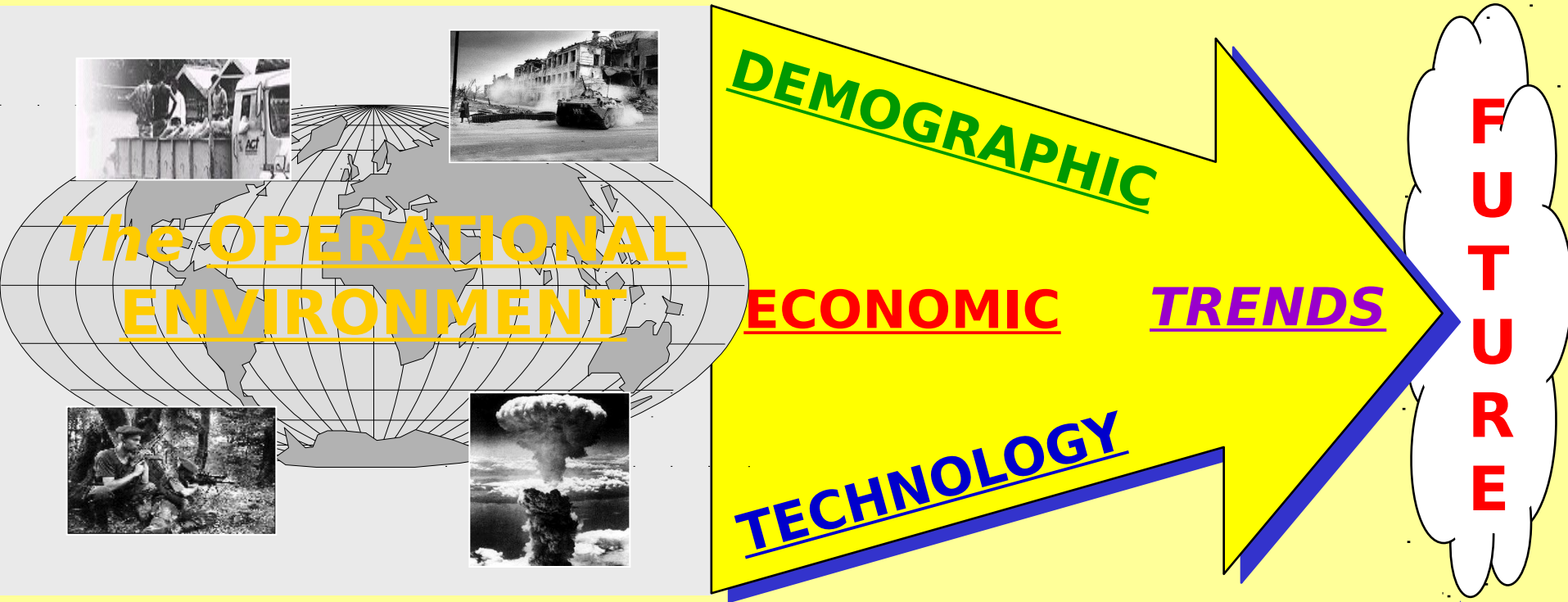
The Underpinning of Transformation

Predicting Change

DEMOGRAPHIC

ECONOMIC   *TRENDS*

TECHNOLOGY

The OPERATIONAL ENVIRONMENT

FUTURE

. . . a wider spectrum of challenges, increased unpredictability and a more complex range of operating environments.

Demographics

Population Growth Trends:

- **World Population will double in next 40 years**
- **95% of growth in developing world.**
- **Youth bulge (15-24 yrs) Africa, Middle East, Asia Pacific**
- **India, China, USA, Indonesia, and Pakistan will be the 5   most populous countries in the world.**
- **Countries with >3% Growth Historically Face Instability**

Urbanization Trends:

- **Urban areas growing 3 times faster than population.**
- **2020: 66% of world population in cities**
  - **40 Megacities: >10M persons**
- **20-30M poor people move into urban areas yearly**

Disenfranchised Populations:

- **22M people displaced**
- **Legal & illegal migrants - 15% of the population in more than 50 countries**
- **Majority move in country or to neighboring countries; <10% relocate permanently**

ISSUES

- **Refugees**
- **Resources**
- **Industrial Growth**
- **Cultural Tension**
- **State vs. Non-State**
- **Rising expectations**
- **Urbanization**
- **Infrastructure Limits**
- **Shifting Centers of Gravity**

Economics

- Emergence of a Global Market
- States and Regions Transformed Based on Global Efficiencies and Business & Industrial Demands
- Growing Power of Non-State Actors
- Changing Metrics of National Power and Prosperity
- Internal State Issues have Regional and Global Impact
- Changing Patterns of Natural Resource Consumption, and Increasing Demand for Resources
- Globalized Economy Will Increase Friction Between HAVES and HAVE NOTS

ISSUES

- Borders becoming transparent
- Economic disparity will cause tension between developed and developing world
- Greatest area of economic growth is Far East (China, India)
- States have less control

Technology

- **Technological change accelerating**
- **Technology proliferating**
  - **Tied to global market**
  - **Internet and comms make knowledge accessible**
- **Information technology is a key enabler**
- **Dual use R&D (Civilian / Military)**
- **Military effect almost immediate**
  - **Enhance capability**
  - **Negate/degrade superiority**
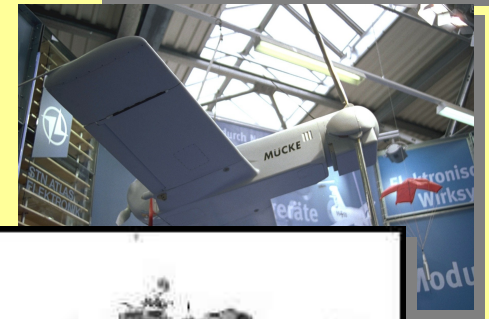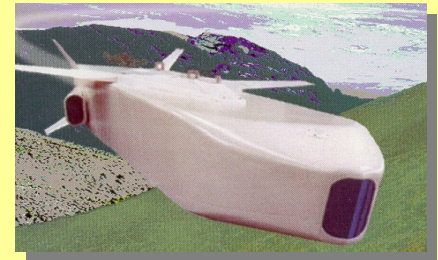
✓ **Technology - Available and Usable**

ISSUES

- **Technology proliferation - rapidly altering societies, cultures, and military capabilities**
- **Ability of U.S. to stay "incrementally" ahead**
- **Surprise**

Causes for Future Conflict

- Power Struggle in Global Community
- WMDE and Technology Proliferation Ideology
- Resource Competition ----Water - Food - Fuel
- States assume responsibility for external min...
- Migrations, refugees and immigration
- Governments unable to meet the needs of the...
     populations
- Disenfranchised minorities
- Youth bulge and rapid population increase

Failed States

Regional Crisis

Global Crisis

Defining Environmental Variables

What We Know

Wide range of Commitments – Across the Spectrum of Conflict

PHYSICAL ENVIRONMENT:
- Topography - prescribes nature of the conflict
- Terrain includes desert, rolling woodland AND Complex (urban) terrain
- Limited infrastructure - affects response capability
- Human issues add complexity
- Increased Govt / NGO / PVO / criminal influence

UNPREDICTABLE TIME AND PLACE FOR FUTURE LAND COM
- Strategic Preclusion denies adversary political and military
  - objectives and avoids long term consequence manageme
- Side that controls time and tempo has more options
- Responsiveness and dominance are vital for deterrence
- Arriving too late decreases options; costs too severe
- High likelihood of close combat in complex terrain

POLITICAL ENVIRONMENT:
- Distinction between strategic, operational
- and tactical blurred
- Increased Govt/NGO/PVO influence
- Limited tolerance for collateral damage
- Build coalitions versus established alliances
- National will not a threat center of gravity
- Rule of Law at risk (from criminal elite factions)
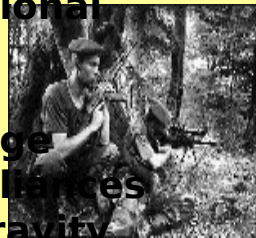
INFORMATION:
- Increased Media / IO influence affect national will
- Information Operations as an operational domain
- Technology – discreet High tech
- Systems/hybridization
- Cultural / linguist Turmoil

Strategic Setting, Guidance and Changes in the Operational Environment, Threat Capabilities and Tactics Expose a Strategy – Capability Gap

Weather, Altitude, & Rough Terrain Have Not Been Overcome by High-Tech

- Helicopters unable to carry useful load to high altitudes
- Sensors unable to see through fog, dust, precipitation, heavy vegetation
- Bad weather prevents air, PGM strikes
- Vehicles overheat above 5,000' ASL
- Heavy snows, ice, mud, rocks impede vehicles
- [text obscured] movement to roads

Video Surveillance & Real-time "Media Events"--
## Available to Anyone in Future?

Ours:

- Sophisticated, military hardware.

but
- Our enemies are learning our capabilities, & limitations, and adapting to them.

- "Big Media" is also willing to compromise our sources, methods and missions, and put out enemy propaganda as "breaking news"

- How do we stay ahead?

Theirs:

- **Common, expendable civil phones**
- **Internet chat rooms, e-mail**
- **Police-grade & civil radios**
- **Messengers, covert signals**
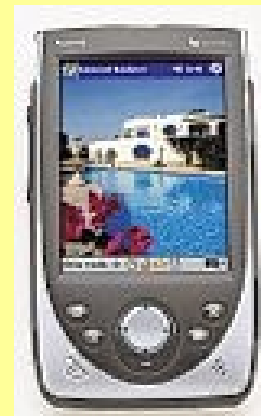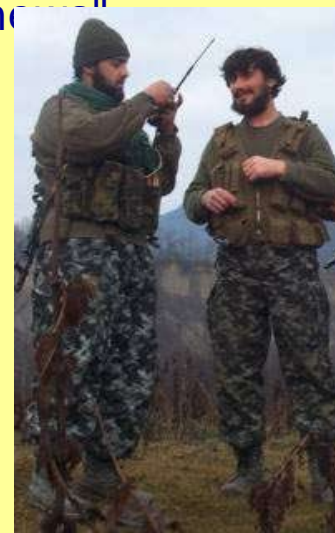
Coming soon to a theatre of war near you:
- **Real-time deaths of US soldiers on CNN /** *Al Jazeera* **TV?**
- **Real-time extortion of US security forces?**
   ("*....Let me pass, or your family back in Ohio gets it. Ya' wanna watch?*")

It's All Out There:
Virtually Unlimited Material for Improvised Weapons

Improvised 57mm Rocket Launcher

Soviet-era shells at Kandahar
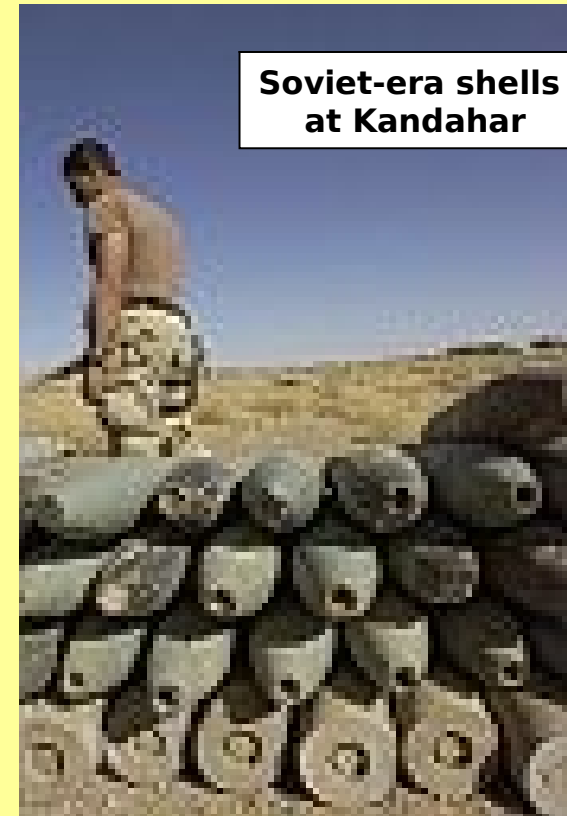
Macedonian Rebel Weapons Turn-In:
So how much did they <u>keep</u>?

"Qassam-II"
Homemade Rockets in Gaza Strip

Chemical /Bio Weapon Threats

Industrial materials = "Poor Man's WMD"

- **Rebels launched chemical attack at Grozny, Dec. '99**
  - **Chlorine & ammonia storage tanks, tank cars exploded**
  - **Large-scale attack foiled while waiting for favorable wind (?)**
- **Fertilizer bombs, industrial chemicals & waste used**
- **Medical radioactives spread in Moscow park**
- **Plot to poison water supplies suspected, countermeasures taken**

Chemical, biohazards aboun

- **Petrochemical spills, gas leaks**
- **Unburied corpses, vermin, filth**
- ***Nasty* diseases: meningitis, hep encephalitis, typhus, plague, a**
  Crimean-Congo Hemorrhagic Fe
  (Outbreaks in Afghanistan & Iran Refugee Cam

Increased Emphasis on Humanitarian Domain
(Armored vehicles often required just to get there & back)

- Many missions require close contact with populace:
  - **Urban cordon-and-search**
  - **Fire & Rescue, Medical Aid, Body Ret**
  - **Investigations, Arrests**
  - **Traffic Direction, Crowd Control**
  - **Patrols, Checkpoints**
  - **Food, Water Distribution**
  - **Elections**
  - **Vaccination programs**
  - **Community Outreach, "Nation Building**

- Troops exposed to sudden, pointblank attacks:
  - *Shootings*
  - *Abductions*
  - *Stabbings*
  - *Car Bombs*
  - *Sudden Rio*
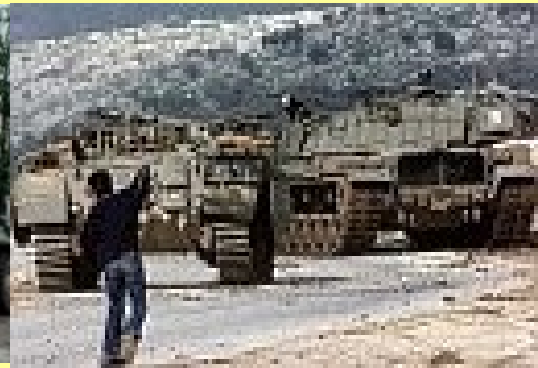
  - **In future, will _robots_ be able to perform these tasks?**
    (Don't hold your breath-- it'll be a while, yet.)

"Variables" in the Environment

CRITICAL VARIABLE	DEFINING CHARACTERISTICS
Physical Environment	Complex terrain & urban environments
Nature of the State	Failed state/autocratic rule/fractured public ins
Sociological Demographics	Internal Society Fractured
Regional/Global Relationships	International Interest - Regional Involvement
Military Capabilities	Modernized Industrial Age Forces
Technology	Discrete Hightech systems/ Hybridization
Information	Media/Info Attack/IO
External Organizations	NGOs/PVOs/Criminal/Supra-National
National Will	NOT a Threat Center of Gravity
Time	Initially Favors the Threat
Economics	Supports Sustained Operations

The future battlespace -

- High likelihood of <u>close combat in urban environments and/or complex terrain</u>

- <u>Humanitarian issues</u> present across the full spectrum of conflict

- Governmental, Private, International, Criminal and Non-Governmental Organizations <u>increased presence and influence</u>

- Ubiquitous <u>presence of media</u>

- <u>Increased Global and Regional interest</u> in local matters (Alliances and Coalitions)

- <u>Advanced Technology</u> present or available . . .

. . . and a <u>changing Military Dynamic</u>

The **OPERATIONAL ENVIRONMENT**

The Nature of the Threat

All Military Forces in today's world are constructed in accordance with <u>established paradigms.</u> In most cases, this construct is sufficient to <u>meet national needs in regional settings against neighboring states.</u>

U.S. forces, with their technological, organizational and strategic capabilities, <u>dominate conventional, regionally-focused militaries</u> and drive them to unconventional (adaptive) ways, means and end.

Nations with interests contrary to the US use asymmetrical designs and new technologies to develop capabilities that will allow them to challenge the U.S.

Doctrine   Organization

Established Construct

Capabilities   Strategy

Combat Developments

Adaptive Applications

Combined Adaptive and Established Structure, Strategy, Application and Capabilities

New Technology

US Dominance ⟶ ⟶ Uncertainty
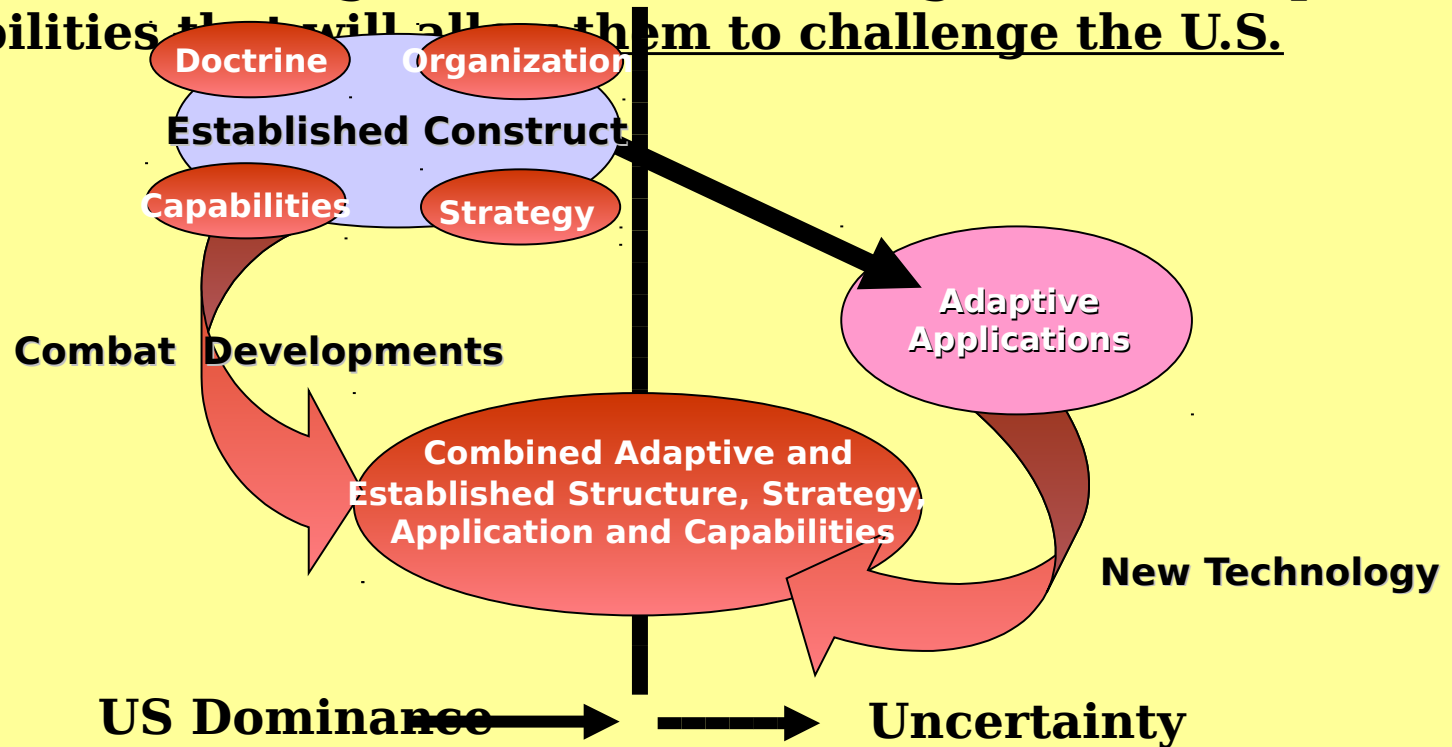
US Vulnerabilities
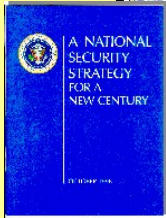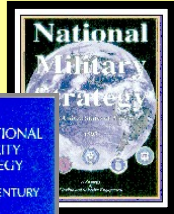
U.S. employs a strategy of gradual escalation in response to issues that affect its national interests.

The Challenge

Power Projection Military
Must Have ACCESS
as its Cornerstone
in the Area of
Operations.

The Vulnerability

Access Requires
APODs and SPODs
Forward Bases (Air, Land and Sea)
Logistics Stockpiles
Secure LOCs
Long haul C2
Technical ISR

The Response

Threat Investment
SOF/Terrorists
Precision Strike
Chemical & Biological
Theater Ballistic Missiles
Air and Missile
Defenses Counter Precision
Counter C4ISR

The Paradigm

Supports a Military Strategy of:
Entry Operations
Buildup of Capability
Air/Missile Campaign
Ground/Air Campaign
Transition Operations

Common View
of Foreign
Militaries

Application of Military Force

Time

AGGRESSORS Combat Power

DEFENDERS Combat Power

Offensive

Transition

Defensive

Culminating Point

Objective

Critical Factors

Tangible	Intangibles
Military	Will to Fight
C4ISR	Leadership
Logistics	Public Support
Industry	Alliance/Coalition
Energy	Doctrine
Agriculture	Strategy

U.S has never reached a culminating point as a result of tangible factors!

A Threat Strategy

Strategic Culminating Point

Doctrine **Organization**

Established Construct

Capabilities **Strategy**

Conventional Operations

Offense

Intangibles
Public Support
National Leadership
Will to Fight
Alliances/Coalitions
Strategy & Doctrine

Transition Operations

Anti Access
- Deter and Preclude
- Exclude
- Limit Access
- Shield

Strategic Operations

Defense

Opportunity **Tailorable**

Adaptive Applications

Creative **Defensive**

Adaptive Operations

US Dominance → **Uncertainty**

Emerging Threat Operational Design

Exclusion - development of long range attack systems and use of other elements of national power to preclude the establishment of forward operating bases within operational reach of the area of Operations. . .

. . . a means to degrade tempo and effects of Air and Missile Forces

Limited Access - capability to meter or interrupt access to the Area of Operations through the ability to attack key or critical force components (APODs, SPODs, Staging Bases, Lift, . . .)

Shielding – Tactics (deception, hugging . . .), decoys, EW, IO, AD systems employed to neutralize the effects of sophisticated ISR and Air and Missile Forces.

Military Systemology - a targeting and strike focus aimed at degrading the combat effectiveness of a force by attacking its systems

Opportunistic Maneuver – during periods of opportunity, focused on the massing of effects to avoid targeting, when tactical decision can be assured -- employing all means available

Recon/Surveillance Fires - ISR linked to long and short range precision fires from dispersed locations as the principle means of attacking the US system of systems

Strategic Attack – military actions designed to support attacks on national will, strategy, leadership and coalitions.

Operational Design Activities

STRATEGIC ATTACK On National Will -Prevent or limit U.S. involvement . Tied to Area Operations

Operations in AOR

ACCESS LIMITATION- Meter or interrupt access into the AOR through APODs, SPODs, staging bases, and LSAs

AOR

Airfield

UAV

TBM

S-400

Anti Helicopter

EXCLUSION - Deny the establishment of forward operating bases in the region

Airfield

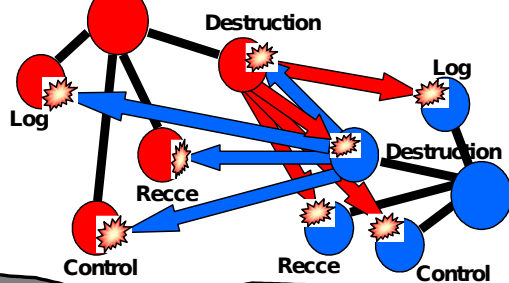Port

SPF

SPF

GPS Jammer

MANPAD

FIRES – ISR linked to precision fires from dispersed locations for destruction and creation of maneuver opportunities

SHIELDING – Degrade the capabilities of ISR, Air and Missile forces

Threats Will Conduct Systemology Attacks

Recon Fires

Destruction

Log

Log

Destruction

Recce

Recce

Control

Control

"Tying ... it all together"

Distributed, Simultaneous Operations

Critical Vulnerable Space Links

Non-traditional Coalitions

Homeland Security

Peer/Near-Peer Competitors

this __Operational Environment__ highlights:

- a wider spectrum of operations, **increased unpredictability** and a more **complex range of operating environments** . . .

. . . and adversaries that:

Terror

Asymmetric Threats

Crime

Regional Competitors

- are __WATCHING, LEARNING and ADAPTING__

- will __marginalize__ the strengths of our air and naval forces and **make force projection difficult**

- can accept - **not losing** - as a strategic goal

- are __modernizing__ in light of late 20th Century lessons

- will change from conventional operations when threatened and **pursue an asymmetric** strategy

Noncontiguous Battlefield

Non-state Actors

Complex Terrain

Divergent Military Capabilities

Limited Existing Infrastructure

Unblinking World Media

counter w... ...ss and ...gy to **inf... ...e and** embarrassing losses

Rapidly Changing Information Technology And Increased Information Demands

The Underpinning of Transformation

Missions

"Contemporary OE"

Force Packages

Units

Preparing

Future Concepts

Combat Developments

"Future OE"

Training Leader Development

Concepts

Missions

Future Concepts

Combat Developments

Doctrine

The Operational Environment

Training

Material

Force Packages

Units

Training Leader Development